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| EXAMINER |
|---|
| HENRY, MATTHEW ALLAN |

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| 2116 | |

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Please find below and/or attached an Office communication concerning this application or proceeding.

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/018,965 | MELONI, FRANCESCA |
| | Examiner | Art Unit | |
| | Matthew A. Henry | 2116 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on _18 December 2001_.

2a)☐ This action is **FINAL**.      2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) _33-89_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _33-37,39,47,50-53,56,59-65,75,81,84 and 87-89_ is/are rejected.

7)☒ Claim(s) _37,38,40-46,48,49,54,55,57,58,66-74,76-80,82,83,85 and 86_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _18 December 2001_ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some *  c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _12/18/01_.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

## DETAILED ACTION

### *Drawings*

1.      The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "elaboration circuit" listed in Claim 89 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

1.      The disclosure is objected to because of the following informalities:

On Page 17, Line 11, U.S. Patent "5.4365.510" should be replaced with "5.436.510" to be correct.

On Page 40, Line 21, the word "cab" should be replaced with "can" to be correct.

Appropriate correction is required.

2.      The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter.  See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).  Correction of the following is required:

There is no mention of an "elaboration circuit" as set forth in Claim 89.

3.      **The title of the invention is not descriptive.**  A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Method for Decentralized Management of Power Consumption in Household Appliances.

### *Claim Objections*

4.      Claims 37, 55, 82, 83 and 86 are objected to because of the following informalities:

In Lines 3-4 of Claim 37, the word "determined" should be replaced with "determine" to be correct.

Claims 55, 82 and 83 claim dependency on Claims 12, 2 and 4, respectively.  The claims upon which they depend have been cancelled.  Regarding a telephone conversation with Patricia

Sheehan on 1/9/2005, these claims will be interpreted to be dependent upon Claims 54, 63 and

65, respectively.

In Line 1 of Claim 86, the phrase "most significant bits" should be changed to "most

significant bit." There can only be one most significant bit.

Appropriate correction is required.


## *Claim Rejections - 35 USC § 112*

5.      The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

**6.      Claim 88 and 89 are rejected under 35 U.S.C. 112, second paragraph, as being**

**indefinite for failing to particularly point out and distinctly claim the subject matter which**

**applicant regards as the invention.**

Regarding Claim 88, the phrase "such as" renders the claim indefinite because it is

unclear whether the limitations following the phrase are part of the claimed invention.  See

MPEP § 2173.05(d).


## *Claim Rejections - 35 USC § 102*

7.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on
> sale in this country, more than one year prior to the date of application for patent in the United States.

**8.      Claim 33-36 and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Aisa**

**(EP 0,727,668).**

*Concerning Claim 33*, Aisa discloses:

A system for managing electric power consumption of electric users, the system

including:

A. a set of smart users (Figure 1, Items LB, LS and FO; Column 4, Lines 10-11) with

each user equipped with a control system (Figure 1, Items SC1, SC2 and SC3; Column 4, Lines

11-13), the set of smart users being operatively connected to communicate over a network

(Figure 2, Item 15; Column 4, Lines 34-38);

B. a power meter for transmitting information relating to power consumption to the set of

smart users over the network (Column 5, Lines 6-8);

C. the control system of a given smart user determining an associated effective priority

that is used to control power consumption of the given user relative to the set of users (Column

6, Lines 49-52), the control system determining the effective priority on the basis of

i. the information transmitted by the power meter (Column 6, Lines 45-48), and

ii. the current operating state of the given smart user (Column 6, Lines 55-57).


*Concerning Claim 34*, Aisa further discloses:

the control system of a given smart user establishes the right of the given user to consume

a level of available power based on the associated effective priority (Column 6, Lines 53-57).


*Concerning Claim 35*, Aisa further discloses:

the control systems employ the effective priorities of the respective smart users as starting values in a competition among the smart users for consumption levels of available power (Column 6, Lines 55-57; the priority of the oven over the washing machine is the first factor used to provide it with more power than the washing machine).

*Concerning Claim 36*, Aisa further discloses:

the effective priority associated with a given smart user varies over time in accordance with the operating state of the given smart user (Columns 6 and 7, Lines 53-58 and 1-2, respectively; clearly the washing machine has a lower priority than the oven when the oven is heating, however the devices both change priority when the oven suspends its heating behaviors).

*Concerning Claim 37*, Aisa discloses:

the operating states of the given smart user are associated respectively with dynamic priority values (Columns 6 and 7, Lines 53-58 and 1-2, respectively), and the control system uses the dynamic priority values to determined the effective priorities (Column 3, Lines 9-15; There are a number of factors that aid in determination of a component's priority, the operating status being only one of them).

*Concerning Claim 39*, Aisa further discloses:

the control system of a given user operates in a competition for increment state in which

the user reduces energy consumption when the information transmitted by the power meter

indicates that power consumption is above a predetermined value (Column 5, Lines 19-24).

_Concerning Claim 47_, Aisa further discloses:

power consumption of a smart user is reduced through a deactivation step (Column 6,

Lines 1-4) in a decrement routine (Figure 2, Item 17; Column 5, Lines 19-24).

_Concerning Claim 50_, Aisa discloses:

in the competition for decrement state (Column 5, Lines 19-20) the control system of a

given smart user executes a transition to a state in which a power packet is released (Column 5,

Lines 19-22; the release of a power packet is equivalent to the reduction of energy consumption).

_Concerning Claim 51_, Aisa further discloses:

in line with information about available power exceeding a predetermined threshold, the

smart users having effective priorities below a fixed threshold are deactivated (Column 5, Lines

19-24 and Columns 6 and 7, Lines 53-58 and 1-2, respectively; the priority aids in determining

the 'relevant' electrical appliance).

_Concerning Claim 52_, Aisa further discloses:

in line with information about available power above a predetermined power threshold,

the smart users with effective priorities below a predetermined priority threshold are activated

(Column 5, Lines 40-44).

_Concerning Claim 53_, Aisa further discloses:

the control system of a given smart user operates under an associated reduced

consumption strategy that are included in increment and decrement routines (Column 10, Lines

3-11).

_Concerning Claim 62_, Aisa discloses:

A system for managing electric power consumption of electric users (Column 1, Lines

37-42), the system including:

A. a set of smart users (Figure 1, Items LB, LS and FO; Column 4, Lines 10-11), with

each smart user equipped with a control subsystem (Figure 1, Items SC1, SC2 and SC3; Column

4, Lines 11-13), said set of smart users being operatively connected to a power supply network

(Figure 2, Item 15; Column 4, Lines 34-38);

B. a power meter for transmitting information on power consumption to the control

systems (Column 5, Lines 6-8);

C. the control system for a given smart user

i. assigning an effective priority value that is associated with the state of the given

smart user (Columns 6 and 7, Lines 53-58 and 1-2, respectively), and

      ii. assigning a right of access to the power consumption available from the power

supply network based on the priority value (Columns 6 and 7, Lines 53-58 and 1-2,

respectively) and the information on power consumption transmitted by the power meter

(Column 6, Lines 45-48).


*Concerning Claim 87*, Aisa discloses:

      A method for managing power consumption of power users, the method includes the

steps of:

      A. associating each user with an effective priority for access to energy consumption

(Column 3, Lines 9-15),

      B. at a given user autonomously defining an associated dynamic priority as a function of

the operating state of the given user (Columns 6 and 7, Lines 53-58 and 1-2, respectively) and

environmental information (Column 3, Lines 9-15); and

      C. controlling the power consumption of the given user based on the effective and the

dynamic priorities (Column 6, Lines 55-57).


*Concerning Claim 88*, Aisa further discloses:

      the step of defining the associated dynamic priority includes defining the dynamic

priority as a function of information, such as program in course (Columns 6 and 7, Lines 53-58

and 1-2, respectively) and/or consumer's habits (Column 3, Lines 9-15).

## *Claim Rejections - 35 USC § 103*

9.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

**10.     Claims 56 and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over**

**Aisa (EP 0 727 668) in view of Hayakawa (5,042,029).**

*Concerning Claim 56*, Aisa discloses:

A method for managing electric power consumption (Column 1, Lines 37-42) including

the steps of

A. setting at each smart user, based on the operating state of the smart user, an associated

effective priority for access to energy consumption levels (Columns 6 and 7, Lines 53-58 and 1-

2, respectively);

B. granting access to energy consumption to the user with greater priority (Columns 6

and 7, Lines 53-58 and 1-2, respectively).

Aisa does not disclose each user having a timer based upon the effective priority and

granting energy access to the user whose timer terminates first.

Hayakawa teaches:

A. Every line controller (Figure 3, Item 12) including a priority detector (Figure 3, Item

40) and a programmable timer (Figure 3, Item 41).

B. initialising a timer to a count that is proportional to the effective priority (Column 5,

Lines 10-14);

C. transmitting packets for a connection whose timer first terminates (Column 5, Lines 27-30).

Hayakawa is motivated by the need to give preferential treatment to lines with higher priority than others (Column 5, Lines 30-34).

Hayakawa teaches the use of a timer as a means for giving implementing priority. Accordingly, it would have been obvious to a person of ordinary skill in the art to set a countdown timer based upon priority as taught by Hayakawa to give higher priority load devices access to power as disclosed by Aisa for the benefit of giving power to the highest priority devices first.

*Concerning Claim 59*, Aisa further discloses:

each smart user autonomously defines effective priority as a function of operating state and certain environmental information (Column 3, Lines 9-15).

*Concerning Claim 60*, Aisa further discloses:

the step of determining effective priority determines the effective priority as a function of one or more of the following:

i. a program step (Columns 6 and 7, Lines 53-58 and 1-2, respectively);

ii. habits of an associated consumer (Column 3, Lines 12-13);

*Concerning Claim 61*, Aisa further discloses:

the effective priority associated with a given user varies in accordance with the level of

available power (Column 10, Lines 2-11; the notion of different power costs is indicative of

different levels of available power).

*Concerning Claim 63*, Aisa discloses:

the control system assigns the effective priority value based, in part, on calculations that

use as a starting value a dynamic priority value (Columns 6 and 7, Lines 53-58 and 1-2,

respectively) allocated to the given smart user (Column 3, Lines 9-15; There are a number of

factors that aid in determination of a component's priority, the operating status being only one of

them), and

Aisa does not disclose the control system further includes a counter that is used in a

competition procedure within the set of smart users, the counter controlling access to available

power for the given user.

Hayakawa teaches:

the control system further includes a counter (Figure 3, Item 41) that is used in a

competition procedure within the set of smart users, the counter controlling access to available

power for the given user (Column 5, Lines 27-30).

*Concerning Claim 64*, Aisa further discloses:

the effective priority value evolves in time as a function of the dynamic priority value

(Columns 6 and 7, Lines 53-58 and 1-2, respectively; the priority changes as the operation state

of the device(s) change).

*Concerning Claim 65*, Aisa further discloses:

the power consumption required by the smart users is subdivided into power packets (Column 3, Lines 50-54; the 'packetized' nature of the power is inherent to the power supply system as it is this feature that allows multiple loads to draw power concurrently), and

the control system uses the effective priority value to decide the right of the given smart user to the consumption of power packets (Columns 6 and 7, Lines 53-58 and 1-2, respectively) that are part of the power consumption available from the power supply network (Column 7, Lines 3-7).

*Concerning Claim 75*, Aisa further discloses:

the control system reduces the power consumption of the smart user through deactivation (Column 6, Lines 1-4).

*Concerning Claim 81*, Aisa further discloses:

the control system of the given smart user uses reduced consumption strategies based on the power consumption information (Column 10, Lines 3-11).

*Regarding Claim 84*, Aisa discloses:

A method for managing electric power consumption of a plurality of users (Column 1, Lines 37-42), the method including the steps of:

A. assigning each user an associated effective priority for access to energy consumption (Columns 6 and 7, Lines 53-58 and 1-2, respectively);

B. granting access to energy consumption to the user with greater priority (Columns 6 and 7, Lines 53-58 and 1-2, respectively).

Aisa does not disclose each user having a timer based upon the effective priority and granting energy access to the user whose timer terminates first.

Hayakawa teaches:

A. Every line controller (Figure 3, Item 12) including a priority detector (Figure 3, Item 40) and a programmable timer (Figure 3, Item 41).

B. for each user (Figure 3, Item 12), initialising a timer based on the effective priority (Column 5, Lines 10-14); and

C. transmitting packets for a connection whose timer first terminates (Column 5, Lines 27-30).

Hayakawa is motivated by the need to give preferential treatment to lines with higher priority than others (Column 5, Lines 30-34).

Hayakawa teaches the use of a timer as a means for giving implementing priority. Accordingly, it would have been obvious to a person of ordinary skill in the art to set a countdown timer based upon priority as taught by Hayakawa to give higher priority load devices access to power as disclosed by Aisa for the benefit of giving power to the highest priority devices first.

**11.    Claim 89 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aisa (EP 0**

**727 668) in view of Pedersen (5,832,187).**

*Concerning Claim 89*, Aisa does not disclose:

the dynamic priority is determined using elaboration circuits operating according to logic

principles.

Pedersen teaches:

the dynamic priority is determined using elaboration circuits operating according to logic

principles (Column 20, Lines 34-37).

Pedersen is motivated to allocate limited fire fighting resources to the higher priority

areas (Column 20, Lines 44-46).

Pedersen and Aisa are considered analogous art because they are both concerned with the

distribution of limited resources to a variety of locations based upon dynamic priority.

Accordingly, it would have been obvious to a person of ordinary skill in the art at the

time of invention to incorporate the teachings of an expert system that may determine priorities

presented by Pedersen into the system disclosed by Aisa for the benefit of dynamically defining

priorities of the many power consuming components within the system and assuring higher

priority components receive this power first.

*Allowable Subject Matter*

12.    Claims 38, 40-46, 48, 49, 54, 55, 66-74, 76-80, 82, 83 and 85 are objected to as being

dependent upon a rejected base claim, but would be allowable if rewritten in independent form

including all of the limitations of the base claim and any intervening claims.

13.    The following is a statement of reasons for the indication of allowable subject matter:

_Concerning Claims 38 and 66_, Applicant claims:

the effective priority value controls a priority timer that sets the times to determine a next effective priority value.

Hayakawa discloses initializing the timer based upon priority (Column 5, Lines 12-14), but does not disclose the use of the timer as a means of determining the next priority. There is nothing in the prior art that teaches or provides motivation for the use of the timer in this way

_Concerning Claim 49_, Applicant claims:

during a transition from the competition for decrement state the control system updates the effective priority in a direction that is the opposite of the power consumption associated with the state to which the control system transitions.

Aisa discloses updating the effective priority directly proportional to the power consumption associated with the state to which the control system transitions (Columns 6 and 7, Lines 53-58 and 1-2, respectively). Further, there is nothing in the prior art that teaches or provides motivation for having an inverse relationship of priority and power consumption as laid forth in the Claim above.

_Concerning Claims 54 and 82_, Applicant claim

the smart users respectively have dynamic priority values that differ from the values of each other smart user.

Aisa discloses smart users having a variety of priority levels (Column 6 and 7, Lines 53-58 and 1-2, respectively), however he does not disclose each smart user having its own, unique priority level. Further, there is nothing in the prior art that teaches or provides motivation for providing smart users with unique priority timers.

*Concerning Claim 83*, Applicant claims:

the respective smart users draw power packets at different times to avoid entering oscillation situations.

Aisa discloses the respective smart users drawing power packets, however he does not disclose them drawing power packets at different times. Further, there is nothing in the prior art that teaches or provides motivation for having smart users draw power at different times.

*Concerning Claim 57 and 85*, Applicant claims:

the timer is a counter that employs a larger number of bits than the number of bits included in the effective priority value, and the step of initialising the timer includes using the effective priority value as part of the starting count.

Hayakawa discloses initializing the timer based on the priority value (Column 5, Lines 12-14) but does not disclose using the priority value as an actual part of the starting count. Further, there is nothing in the prior art that teaches or provides motivation for utilizing a timer that is therefore necessarily bitwise larger than the maximum value that may be used as a counting value in the timer.

## *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew A. Henry whose telephone number is (571) 272-3845. The examiner can normally be reached on Monday - Friday (8:00 am -5:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MAH

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